

December 04, 2015

Tom Moe
USS Corporation
P.O. Box 417
Mountain Iron, MN 55768

RE: Project: NPDES-LINE 3 Wkly
Pace Project No.: 1257710

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on November 25, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Terri Sabetti, Northeast Technical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1257710001	WS-002 Scrubber Make-Up	Water	11/25/15 11:45	11/25/15 12:10
1257710002	WS-003 Thickner Overflow	Water	11/25/15 11:35	11/25/15 12:10

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SAMPLE ANALYTE COUNT

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1257710001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1257710002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

Sample: WS-002 Scrubber Make-Up Lab ID: 1257710001 Collected: 11/25/15 11:45 Received: 11/25/15 12:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	95.5	mg/L	5.0	0.29	10	11/30/15 15:04	12/01/15 13:40	7440-70-2	
Magnesium, Dissolved	208	mg/L	5.0	0.67	10	11/30/15 15:04	12/01/15 13:40	7439-95-4	
Total Hardness, Dissolved	1090	mg/L	100	50.0	10	11/30/15 15:04	12/01/15 13:40		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	776	mg/L	20.0	0.89	10		11/30/15 18:08	14808-79-8	

Sample: WS-003 Thickner Overflow Lab ID: 1257710002 Collected: 11/25/15 11:35 Received: 11/25/15 12:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered Analytical Method: EPA 200.7 Preparation Method: EPA 200.7									
Calcium, Dissolved	549	mg/L	5.0	0.29	10	11/30/15 15:04	12/01/15 13:49	7440-70-2	
Magnesium, Dissolved	23.3	mg/L	5.0	0.67	10	11/30/15 15:04	12/01/15 13:49	7439-95-4	
Total Hardness, Dissolved	1470	mg/L	100	50.0	10	11/30/15 15:04	12/01/15 13:49		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	1200	mg/L	40.0	1.8	20		11/30/15 18:31	14808-79-8	

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

QC Batch: MPRP/6223

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1257710001, 1257710002

METHOD BLANK: 271556

Matrix: Water

Associated Lab Samples: 1257710001, 1257710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	12/01/15 13:27	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	12/01/15 13:27	

LABORATORY CONTROL SAMPLE: 271557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	51.0	102	85-115	
Magnesium, Dissolved	mg/L	50	50.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 271558

271559

Parameter	Units	1257710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	95.5	50	50	144	144	98	97	70-130	0	20	
Magnesium, Dissolved	mg/L	208	50	50	254	252	92	88	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

QC Batch: WETA/14850

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1257710001, 1257710002

METHOD BLANK: 271222

Matrix: Water

Associated Lab Samples: 1257710001, 1257710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	0.089	11/30/15 08:57	

LABORATORY CONTROL SAMPLE: 271223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.2	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 271224

271225

Parameter	Units	1257623001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	41.2	50	50	92.0	91.9	102	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 271226

271227

Parameter	Units	1257678006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	25.9	100	100	125	125	99	99	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-LINE 3 Wkly

Pace Project No.: 1257710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1257710001	WS-002 Scrubber Make-Up	EPA 200.7	MPRP/6223	EPA 200.7	ICP/4792
1257710002	WS-003 Thickner Overflow	EPA 200.7	MPRP/6223	EPA 200.7	ICP/4792
1257710001	WS-002 Scrubber Make-Up	EPA 300.0	WETA/14850		
1257710002	WS-003 Thickner Overflow	EPA 300.0	WETA/14850		

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Section B

Required Project Information:

Section C

Invoice Information:

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant files

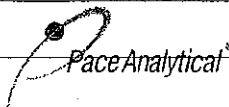
MO#: 1257710

PM: HRZ Due Date: 12/11/15

CLIENT: USS CORP

[illegible]

PRINT Name of SAMPLER: THOMAS A. MOE	
SIGNATURE of SAMPLER: THOMAS A. MOE	DATE Signed: 11/25/15
TEMP in C	
Received on Ice (Y/N)	
Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)	

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

**Sample Condition
Upon Receipt**

Client Name:

USS

Project #:

WO#: 1257710



1257710

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 4.0

Cooler Temp Corrected °C: 4.3

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C

Correction Factor: 0.3

Date and Initials of Person Examining Contents: 11-25-15 CR

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: SP

Date: 11-25-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)